CLAIMS

What is claimed is:

1. A method of fitting a cochlear implant, the cochlear implant having an electrode array with multiple electrode contacts through which a pulsatile stimulation waveform having a pulse rate and a pulse width may be applied to the cochlea of the patient; and wherein the fitting method builds an iso-loudness contour, the method comprising:

a) setting a starting sound level to build an iso-loudness contour;

b) setting volume on a first channel until the sound is at a predetermined level;

c) adjusting volume on a second channel until the volume of sound on the second channel is similar to the volume of sound on the first channel; then

d) setting the second channel to be the first channel; and

e) repeating (c) and (d) until the iso-loudness contour is built.

2. The method of Claim 1 wherein the starting sound level is no sound.

3. The method of Claim 1 wherein the sound includes a tone or tones.

4. The method of Claim 1 wherein the sound includes noise.

5. The method of Claim 1 wherein the sound includes speech.

6. The method of Claim 1 wherein the predetermined level is a comfortable level.

7. The method of Claim 1 wherein the predetermined level is a threshold level.

8. The method of Claim 1 wherein at least one channel is a virtual channel.

9. The method of Claim 1 wherein at least one channel is skipped.

10. A method of fitting a cochlear implant, the cochlear implant having an electrode array with multiple electrode contacts through which a pulsatile stimulation waveform having a pulse rate and a pulse width may be applied to the cochlea of the patient; and wherein the fitting method sets an iso-loudness contour from an iso-neural response contour, the method comprising:

determining an iso-neural response contour; and

linearly transposing the iso-neural contour to set an iso-loudness contour.

11. The method of Claim 10 further comprising using at least one of neural response imaging and evoked auditory brainstem response to determine the iso-neural response contour.

12. The method of Claim 10 further comprising

determining an M level for at least one channel;

determining a difference between the iso-neural level and the M level for the at least one channel; and

linearly transposing the iso-neural contour by the amount of the difference to set the iso-loudness contour.

13. The method of Claim 10 wherein the iso-loudness contour is an M iso-loudness contour.

14. The method of Claim 10 wherein the iso-loudness contour is a T iso-loudness contour.

15. A method of fitting a cochlear implant, the cochlear implant having an electrode array with multiple electrode contacts through which a pulsatile stimulation waveform having a pulse rate and a pulse width may be applied to the cochlea of the patient; and wherein the fitting method uses at least two iso-loudness contours, the method comprising:

determining a first iso-loudness response contour; and

linearly transposing the first iso-loudness contour to set a second iso-loudness contour.

16. The method of Claim 15 wherein the first iso-loudness contour is an M iso-loudness contour.

17. The method of Claim 16 wherein the second iso-loudness contour is a T iso-loudness contour.

18. The method of Claim 15 further comprising:

determining a difference between the first iso-loudness contour level and the second iso-loudness contour using at least one channel; and

linearly transposing the first iso-loudness contour by the amount of the difference to set the second iso-loudness contour.

19. A method of fitting a cochlear implant, the cochlear implant having an electrode array with multiple electrode contacts through which a pulsatile stimulation waveform having a pulse rate and a pulse width may be applied to the cochlea of the patient; and wherein the fitting method determines an iso-loudness contour, the method comprising:

setting pulse width to about 30 μs to about 75 μs;

determining an iso-loudness contour with the set pulse width; and

linearly transposing the iso-loudness contour for use with pulse widths of about 10 μs to about 20 μs.

20. The method of Claim 19 further comprising:

determining a difference between the iso-loudness contour level with the set pulse width and a comfortable volume for pulse widths of about 10 μs to about 20 μs; and

linearly transposing the iso-loudness contour by the amount of the difference.